Is islamic stock market affected by interest rates ? Malaysia as a case study

Daqane, Mohamed Qalib and Masih, Mansur

INCEIF, Malaysia, Business School, Universiti Kuala Lumpur, Kuala LUmpur, Malaysia

30 August 2016

Is islamic stock market affected by interest rates ? Malaysia as a case study

Mohamed Qalib Daqane[1] and Mansur Masih[2]

Abstract

This research makes an attempt to discuss the relationship between interest rate and Islamic stock market in Malaysia along with other theoretical determinants. We use vector error correction model and variance decompositions techniques including the recently developed long-run structural modeling (LRSM). Malaysia is used as a case study. The variables used in this research are monthly data of Crude oil price (OIL) , foreign exchange rates of Ringgit Malaysia- United States Dollar (MYR), Malaysian lending rate(INT) and Emas shariah index(EMASH). This research tends to indicate that in the short-term the interest rate does affect the Islamic product even though theoretically Islamic finance should not have any connection with the interest rate at all.

Key words: Shariah(Islamic) stock index, macrovariables, VECM, VDC

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[1] INCEIF, Lorong Universiti A, 59100 Kuala Lumpur, Malaysia.

2 **Corresponding author**, Senior Professor, UniKL Business School, 50300, Kuala Lumpur, Malaysia.

Email: mansurmasih@unikl.edu.my

INTRODUCTION: ISSUES MOTIVATING THE PAPER

Previous studies have found that Islamic stock market index in Malaysia do not react to interest rates since one of the main tenants of Islamic finance is to avoid business activities that yield interest. Similarly, studies of Islamic stock market index in the US (DJIMI) found that there was no impact of interest rate on DJIMI. However, it is evident that the profit rates in Islamic finance industry are mostly benchmarked with interest rates. Islamic finance industry is in competition with the conventional counterpart and therefore it is only rational that the interest rate prevails as the leading bench mark for the whole industry because of the dominance of conventional finance. With the apparent theoretical relationship that exists between Islamic finance and interest rates, we tried to test this relationship with Islamic stock market in Malaysia.

Essentially Islamic stock market is a suitable place for investors to avoid the threat of inflation and at the same time it is an indicator of development of a nation in economic terms. There is not much research on the relationship between oil price, exchange rate, interest rate and Islamic stock market. Our paper tries to fill this gap, aims to explore the dynamic effect of the oil price, exchange rate, interest rate on Islamic stock market. The rise in oil price may affect the economy in different ways specially the cost of production of goods and services which may indirectly affect the stock markets.

On the other hand, the relationship between stock prices and exchange rates plays a crucial role. First, it may affect economic decisions in terms of monetary and fiscal policy. According to Gavin (1989), booming stock market has a positive effect on aggregate demand and if the stock market booming is large enough, monetary expansion or fiscal policies contraction that focus on interest rate and the real exchange rate will definitely be neutralized. Several policy-makers have suggested that in order to boost the export sector there is a need to reduce currency exchange, and at the same time they should be aware whether such policy might discourage the stock market activities. Second, it is argued that, by understanding the relationship of stock prices and exchange rate it will assist to assume the possibility of financial downturn. As argued by Khalid and Kawai (2003), Ito and Yuko (2004), the link between the stock and currency markets helped propagate the Asian Financial Crisis that occurred in 1997. Clearly, knowledge on the relationship between the two markets would be helpful in preventing the spread of an economic crisis. Since interest is forbidden under Islamic law and Muslim investors try to avoid it by investing in Islamic stocks that excludes companies that earn interest as its main business. Therefore the main issue of concern here is whether Islamic stocks react to interest rates and if a relationship exists, this will help Islamic investors to predict Islamic stocks as well.

Therefore, this study intends to focus on the following;

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- To examine the relationship between oil prices, exchange rate, interest rate and Islamic stock market.
- To check whether there is any relationship between interest rates and Islamic stock market.
- To see if the Islamic stock market can be a suitable market for those who are limited to investing in Islamic equities.

1 LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Elton and Gruber, 1991, assumed that share return determinants are the required rate of return and expected cash flows, hence economic variables such as oil prices and exchange rate which give an impact on required returns and future cash flows, can therefore be expected to affect share prices. Thus, it can be concluded that there existed a stable relationship between stock prices and related macroeconomic variables and strategic commodity variables.

Sadorsky (1999) studied the relationship between shocks that occurred in oil prices in the U.S.A and the stock exchange. The results of the study using the data from 1947-1996, where the VAR and GARCH analyses were applied and interest rate and industrial production output were included, revealed that oil-price volatility had a negative effect on stock prices. Additionally, Papapetrau (2001) in his study investigated the dynamic relationship between oil price shocks, the stock exchange (stock prices) and economic activities (interest rate and work force) in Greece. His research discovered that oil price shocks negatively impacted the stock, seeing as they negatively affected output and employment growth. On the other hand, Sadorsky (2001), who uses a multifactor market, which takes into account the presence of several risk premiums, identifies factors such as exchange rate and interest rate alongside the actual price of oil itself as the main determinants of oil and gas stock returns. His study also found a significantly positive relationship between the price of oil and the stock returns from gas and oil firms. These findings are concurrent with Arouri and Julien (2009) who found that the stock market in GCC countries reacted mostly positively to oil and price increases. Lin et al.

Nandha and Faff (2008) examined how oil prices changes affected equity price and also explored the existence of an asymmetric impact of oil price towards equity returns. Their results suggest that oil prices negatively impacted real output and adversely affected corporate profits when oil was used as an input. However, when the asymmetry of the price effect was tested they found that the effect of oil price change on equity price was symmetric and not asymmetric as expected. O'Neil *et al.* (2008) and Park and Ratti (2008) showed that oil price shocks statistically and significantly had a negative effect on stock prices for an extended sample of 13developed markets.

On the other hand, there are also attempts among the economist to predict stock prices and its returns in the financial market. Madura (2008) for example argued that stock prices are possibly affected by three factors, namely the economic factor (interest rate and foreign exchange rate), market related factor, and firm-specific factor. On the other hand, exchange rates are highly responsive to the stock market changes and global portfolio investments as compared to the past. Therefore, it is suggested that there is a need to evaluate the relationship among stock prices and exchange rates since the results would be able to bring some impact on monetary and fiscal policies.

2. RESEARCH METHODLOGY, RESULTS AND INTERPRETATION

This study will apply time series technique, because of the limitations of regression analysis. Time series techniques should start off, not mechanically, but by testing the stationarity of the variables. Most economic time series are non- stationary in their original level form, so if the variable are non stationary, the conventional statistical tests (such as R^2 , t, etc) are not valid, this means that applying ordinary regression on the variables will render the results misleading. If the variables are non-stationary but cointegrated, the ordinary regression without the error- correction terms derived from the cointegration equation is miss- specified.

Applying regressions on the differenced form of the variables will solve one problem, but at the same time will create a big mistake, that is when the variables are regressed in their differenced form, the long term trend is effectively removed. The conclusion drawn from such an analysis will be valid only for the short run and no conclusion can be made about the (long run) theoretical relationship among variables since the theory has nothing to say about the short run relationship. This is due to the fact that the "differenced" time series variables have no information about the long run relationship between the trend components of the original series. Since by definition these have been removed, the long run co-movement between the variables cannot be captured by "differenced" variables. The variables involved in this research are Crude oil price (OIL), foreign exchange rates of Ringgit Malaysia- united State Dollar (MYR), Malaysian lending rate (INT) and Emas shariah index (EMASH), using monthly data over the period November 2006- August 2012. A total of 70 observations were obtained, the source of data was Data Stream.

3. ESTIMATION OF MODEL AND EMPIRICAL RESULTS

In this section we will carry out the eight steps of the time series and explain the empirical results followed by a segment on policy implications.

3.1 Testing Stationarity of Variables

We begin our empirical testing by determining the stationarity of the variables used. In order to proceed with the testing of Cointegration later, ideally our variables should be I (1), in their level form they are non-stationary and in their first differenced form they are stationary. The differenced form for each variable used is created by taking the difference of their log forms. For example, DEMASH = LEMASH – L_{t-1}. We then conducted the Augmented Dickey-Fuller (ADF) test on each variable in both level and differenced form. For simplicity, the paper has the following table and relying primarily on the AIC and SBC criteria, the conclusion that can be made from the above results is that ***all the variables we are using for this analysis are I(1)***, and thus we may proceed with testing of Cointegration. Note that in determining which test statistic to compare with the 95% critical value for the ADF statistic, we have selected the ADF regression order based on the highest computed value for AIC and SBC.

Table 4.1A Non-stationary test

	Level Form		
Variable	**Test Statistic**	**Critical Value**	**Result**
LEMASH	-2.1591	-3.4801	Non Stationary
MYR	-1.8614	-3.4801	Non Stationary
LOIL	-2.8828	-3.4801	Non Stationary
INT	-1.8143	-3.4801	Non Stationary
	Differenced form		
Variable	**Test Statistic**	**Critical Value**	**Result**
DEMASH	-6.866	-2.9077	Stationary
DMYR	-7.7926	-2.9077	Stationary
DOIL	-3.8112	-2.9077	Stationary
DINT	-3.9454	-2.9077	Stationary

PP Test for Stationarity

Pp test also can be used to test whether the variables are stationary or not

Table 4.1B, PP Test for Stationarity

Variables In level form (Differenced once)

Variable	Test Statistic (p-value)	Results
DEMASH	0.181	Variable is non-stationary
DMYR	0.020	Variable is stationary
DOIL	0.003	Variable is stationary
DINT	0.126	Variable is non-stationary

Table 4.1c Test for Statinarity

Variables in Differenced Form (Differenced twice)

Variable	Test Statistic (p-value)	Results
DEMSH	0.000	Variable is Stationary
DMYR	0.000	Variable is Stationary
DGOLD	0.002	Variable is Stationary
DOIL	0.001	Variable is Stationary

The result is concluded based on the P-value. P-value shows the error we are making when we are rejecting the null. And the p-value will be determined based on which level of confidence that you are choosing 95% or 90%. So if the p- value is less than the confidence interval, you will reject the null. If p-value is higher than the confidence interval, the null cannot be rejected. As mentioned above, the null hypothesis for this test states that the variable is non- stationary

Although PP test found that MYR and OIL are I(0), we have retained these variables because it was I(1) from the ADF test, in addition, these variables are important for understanding the dynamics of Islamic stock market as depicted by earlier studies.

3.2 Determining the order or lags of the VAR

Before proceeding with test of Cointegration, we need to first determine the order of the vector auto regression (VAR), that is, the number of lags to be used. As per the table below, results show that AIC and SBC favors zero lag.

Table 4.2A Order of VAR

	Result	
	AIC	SBC
Optimal Order of Lags	0	0

We address this in the following manner. First we check for serial correlation for each variable and obtained the following results.

Table 4.2. B for serial correlation

Variable	Chi- Sq p-value	Implication (at 10%)
DEMSH	0.042	There is serial correlation
DMYR	0.144	There is no serial correlation
DOIL	0.326	There is no serial correlation
DOIL	0.721	There is no serial correlation

Although the test shows these results we will move further in with the study using ***2 lags*** because using a lower order, we may encounter the effects of serial correlation. The disadvantage of taking a higher order is that we risk over-parameterization. But with the amount of data point available taking into consideration we decided to go with ***VAR order of 2***

3.3. Testing Cointegration

Once we have established that the variables are I (1) and determined the optimal VAR order as 2, we are ready to test for Cointegration. As depicted in the table below, the maximal Eigen value and SBC indicate that there is one co-integrating vector whereas according to AIC and HQC there are 4 and trace test shows 2 co-integrating vectors.

Table 4.3 **Johansen ML results for multiple cointegrating vectors**

-Emash, Ringit/us$, oil, lending rate (int)

H_0	H_1	Statistic	95%	90% Crit
Maximum Eigen value statistic				
r=o	**r≥1**	**33.4402**	**31.7900**	**29.1300**
r≤1	**r≥2**	**17.2516**	**25.4200**	**23.1000**
Trace Statistic				
r=o	**r≥1**	**67.0505**	**63.0000**	**59.1600**
r≤1	**r≥2**	**33.6003**	**42.3400**	**39.3400**

From the above results, we select one cointegrating vector based on the Eigen value and trace test Statistics at 95% level. The underlying VAR model is of order 2. From the result shown above, we are inclined to believe that there is one cointegrating vector based on intuition as well as familiarity. In some way or other, to varying degrees, based on the above statistical result as well as our insight, for the purpose of this study, we shall assume that there is one cointegrating vector, or relationship.

Statistically, the above results indicate that the variables we have chosen in some combination, result in a stationary error term. The economic interpretation, in our view, is that the 4 variables are theoretically related, in that they tend to move together in the long run. In other words the 4 variables are cointegrated. That is their relations to one another is not merely spurious or by chances . This conclusion has an important implication for investors .Given that these series are cointegrated, the investor in the Islamic stock market should give more attention to these variables which play a crucial role on the volatility of Islamic stock market

The above is based on the Johansen method. Alternatively we have used the Engle- Granger method.

3.4. Long Run Structural modeling (LRSM)

Next, we attempt to quantify this apparent theoretical relationship among the Islamic stock market and exchange rate, oil price, Interest rates. We do this in order to compare our statistical findings with theoretical or intuitive expectations. Relying on the Long Run Structural Modeling (LRSM) component of MicroFit, and normalizing our variable of interest the EMAS Shariah Index, we initially obtained the results in the following table. Calculating the T-ratios manually, we found that all variables to be insignificant.

Table 4.4 An Exact and over identifying restrictions on the Cointegrating vector

	PANEL A	PANEL B
EMASH	1.000	1.000
	(None)	(None)
MYR	-4.4076	0.000
	(508171)	(None)
OIL	-0.47059	.54801
	(0.75225)	(.53648)
INT	-5.4959	-.59694
	(4.4718)	(.28638)
TREND	-0.044095	-.023778
	(-.044095)	(.011242)
Log Likelihood	555.8139	362.3277
Chi-Square	(None)	1.5225(.217)

The table above shows the maximum likelihood estimates subject to exactly identifying (panel A) and over-identifying (panel B) restrictions. The panel A estimates shows that all variables are insignificant (SE are in parenthesis) .However the over-identifying restrictions on Exchange rate =0 is accepted. (With a p-value of only0.21)

When we impose over identification restriction of 0 on the exchange rate, it was not rejected. Now the interest rate becomes significant. Hence we proceed with panel B since we got one significant variable (interest rate).

3.5 Vector Error Correction Model (VECM)

From our analysis so far, we have established that the variables are co-integrated to a significant degree. However, the co-integrating equation reveals nothing about causality, that is, which variable is the leading variable and which is the lagged variable. Information on direction of Granger-causation can be particularly useful for investors. By knowing which variable is exogenous and endogenous, investors can better forecast or predict expected results of their investment. Typically, an investor would be interested to know which variable is exogenous because then investor would closely monitor the performance of that variable as it would have significant bearing on the expected movement of other variables in which the investor has invested. This exogenous variable would be the variable of interest to the investor.

In light of this, the next part of our analysis involves the Vector Error Correction Model (VECM). Here, in addition to decomposing the change in each variable to short-term and long-term components, we are able to ascertain which variables are in fact exogenous and which are endogenous. The principle in action here is that of Granger-causality, a form of temporal causality where we determine the extent to which the change in one variable is caused by another variable in a previous period. By examining the error correction term, e_{t-1}, for each variable, and checking whether it is significant, we found that ***there are two exogenous variables, Oil, and Exchange rates***, as depicted in the table below. The other variables which are the **Emas shariah index and Interest rate** are Endogenous variable.

Table 4.5 **Error correction models-Emash, Ringgit/us$, Oil. Int**

Dependent Variable	DEMASH	DMYR	DOIL	DINT
DEMASH(-1)	0.044038	-0.035364	0.14056	0.11231

	(-0.12678)	(-0.1452)	(-0.076916)	(-0.43654)
DMYR(-1)	-0.034949	-0.35659	-0.010436	-0.23869
	(-0.04851)	(-0.75022)	(-0.02943)	(-0.16703)
DOIL(-1)	0.4287	-0.35659	0.035098	-1.3834
	(-0.25065)	(-0.75022)	(-0.15206)	(-0.86305)
DINT(-1)	0.020965	-0.010648	-0.047413	-0.0038228
	(-0.03325)	(-0.099519)	(-0.020172)	(-0.11449)
ECM(-1)	-.048583*	0.008107	0.034142	.025565*
	(-0.021537)	(-0.0082406)	-0.042579	-5648
Chi-square SC(1	21.6310[.042]	11.4797[.488]	.3431[.137]	8.4785[.747]
Chi-square FF(1)	.23842[.625]	.74367[.388]	2.1143[.146]	7.5781[.006]
Chi-square N (1)	54.6020[.000]	.15364[.926]	2.7736[.250]	1.8330[.400]
Chi-square Het(1)	.11102[.739]	.39699[.529]	12.0216[.001]	2.5341[.111]

In addition, looking at the significance or other wise of the coefficient of the error correction we find that Emash and interest rate are Endogenous whilst the other variables including oil and Exchange rate are Exogenous. That tends to indicate that the oil and MYR are drivers and the Emash, and interest rate responds to exogenous variables. The error correction term in the Emash equation is significant. It implies that the deviation of the variables (represented by the error-correction term) has a significant feedback effect on the Emas shariah index variable that bears the burden of short term adjustment to bring about the long-term equilibrium .Additionally the error correction model also helps us distinguish between the short-term and long-term Granger causality .The error-correction terms stands for the long-term relations among the variables. The impact of each variable in the short term is given by the "F" tests of the joint significant. However with the exception of the normality test, serial correlation, in Demash, hetroscedasticity in Oil. And function form in Interest rate, diagnostics show that the 4 VECM equation are well specified, this is because the respect *p*-value are larger than 0.05

The implication of this result is that as far as the Islamic stock market is concerned, the variable of interest to investors would be the Oil and Exchange rate. These variables, being the exogenous, would receive market shocks and transmit the effects of those shocks to other variables. An investor who invests say, Emas shariah index, would be interested to monitor movements in the oil and exchange rate as changes to those series are likely to affect his investment. Likewise, news, events and developments that are likely, to affect the Emash would be of interest to that investor.

In addition, the VECM produces a statistic that may be of interest to investors. The coefficient of et-1 tells us how long it will take to get back to long term equilibrium if that variable is shocked. The coefficient represents proportion of imbalance corrected in each period. In the case of the FBM Shariah index, the coefficient is 0.22805. This implies that, when there is a shock applied to

Emash index, it would take, on average, about 5 months for the index to get back into equilibrium corrected by long run combination.

3.6. Variance Decompositions – VDC

Although the error correction model tends to indicate the endogeneity / exogeneity of a variable, we have not been able to say anything about the relative exogeneity of the variables namely Oil, Exchange rate . In other words, of the remaining variables, which is the most leader variable compared to others, or the least leader? As the VECM is not able to assist us in this regard, we turn our attention to variance decomposition (VDC). Relative exogeneity can be ascertained in the following way. VDC decomposes the variance of forecast error of each variable into proportions attributable to shocks from each variable in the system, including its own. The most exogenous variable is thus the variable whose variation is explained mostly by its own past variations.

We started out by applying orthogonalized VDC and its result for horizon 10 and 20 respectively as follows:

Table 4.6 .1 Horizon 10

	LEMSH	LMYR	LOIL	LINT
LEMSH	90.85%	2.02%	1.39%	5.74%
LMYR	14.25%	81.25%	0.69%	3.81%
LOIL	21.35%	19.00%	58.45%	1.21%
LINT	3.62%	33.97%	2.95%	26.80%
Ordering	1	2	3	4

Table 4.6 .2 Horizon 20

	LEMSH	LMYR	LOIL	LINT
LEMASH	82.43%	4.27%	3.30%	10.00%
LMYR	13.66%	80.93%	0.99%	4.43%
LOIL	20.78%	18.18%	60.03%	1.01%
LINT	43.08%	39.53%	2.89%	14.50%
Ordering	1	2	3	4

The table above shows the variance of forecast error when we shock 1 variable, while the shaded cell represents the impact to the particular shocked variable. This impact can be used to explain exogeneity and endogeneity of a variable as ranked below:

Unfortunately, orthogonalized VDC has ordering bias. In other words, the variable that is ordered first will normally be more exogenous, As a result our exogeneity ranking bias may be incorrect.

In order to confirm this issue we have changed the order of the variable by putting MYR as the first variable, followed by other variables and putting LEMASH at the last variable.

Table. 4.6 .4. Horizon 10 for reordering

	LMYR	LOIL	LINT	LEMASH
LMYR	81.25%	0.69%	3.81%	14.25%
LOIL	19.00%	58.45%	1.21%	21.35%
LINT	33.97%	2.95%	26.87%	36.21%
LEMASH	2.02%	1.39%	5.74%	14.85%
Ordering	1	2	3	4

As confirmed by the result. It can be seen that reordering totally changed the exogeneity ranking

Thus, we have run the generalized VDCs and obtained the following results. We chose generalized over orthogonalized since it is less biased. We use three different time horizons to test if the level of exogeneity changes over time. In this case the paper uses first month, 25 months and 50 moths which is long term effects comes to around 4 years.

Horizon first month

Table 4.6 .5. First Horizon

	LEMASH	**MYR**	**LOIL**	**INT**
LEMASH	69.19%	14.65%	14.88%	1.29%
MYR	9.29%	66.33%	19.03%	5.32%
LOIL	12.11%	20.81%	64.76%	2.32%
IN	2.84%	4.50%	2.42%	90.24%
Ordering	2	3	4	1

Table 4.6 .6 Horizon 25

	LEMASH	**MYR**	**LOIL**	**INT**
LEMASH	73.57%	5.81%	5.67%	14.95%
MYR	9.41%	65.52%	13.97%	11.10%

LOIL	13.64%	20.14%	64.20%	2.01%
IN	25.73%	39.35%	22.76%	12.16%
Ordering	1	2	3	4

Table 4.6 .7 Horizon 50

	LEMASH	**MYR**	**LOIL**	**INT**
LEMASH	68.07%	3.21%	3.46%	18.06%
MYR	9.19%	65.23%	13.36%	11.66%
LOIL	13.40%	19.67%	64.38%	1.96%
IN	26.83%	40.87%	24.64%	9.54%
Ordering	1	2	3	4

For the above three tables, rows read as the percentage of the variance of forecast error of each variable into proportions attributable to shocks from other variables in columns, including its own. The columns read as the percentage in which that variable contributes to other variables in explaining observed changes. The diagonal line of the matrix highlighted represents the relative exogeneity. According to these results, the ranking of indices by degree of exogeneity[1] is as per the table below

Table 4.6.8. Relative Exogeneity

	Relative Exogeneity		
	first month	**25 months**	**50 months**
1	LINT	EMASH	EMASH
2	EMASH	MYR	MYR
3	MYR	OIL	OIL
4	OIL	INT	INT

Initially, we found this result different from the previous VECM analaysis. We determined that Emash, interest, are endogenous while the exchange rate and oil become exogenous and in the VDC, the Emash became most Exogenous. Oil and MYR tend to be relative endogenous, which may be due to the fact that VECM is within sample results and VDC is forecast results beyond the sample period. So we can see change in the order of exogeneity over the short run and the long run 50 months. Interest rate become the most exogenous in the short run while the effects on its own past is around 90% but in the long run it is only 12% this means that in the short run INT can affect

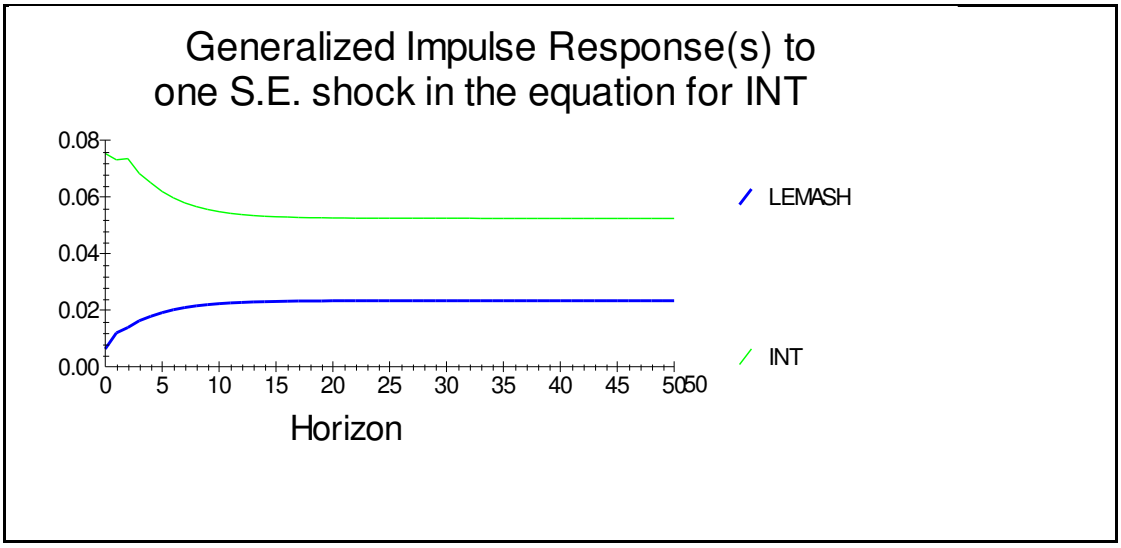
its own self better than in the long where the dependence on other variables are high in getting back to equilibrium.

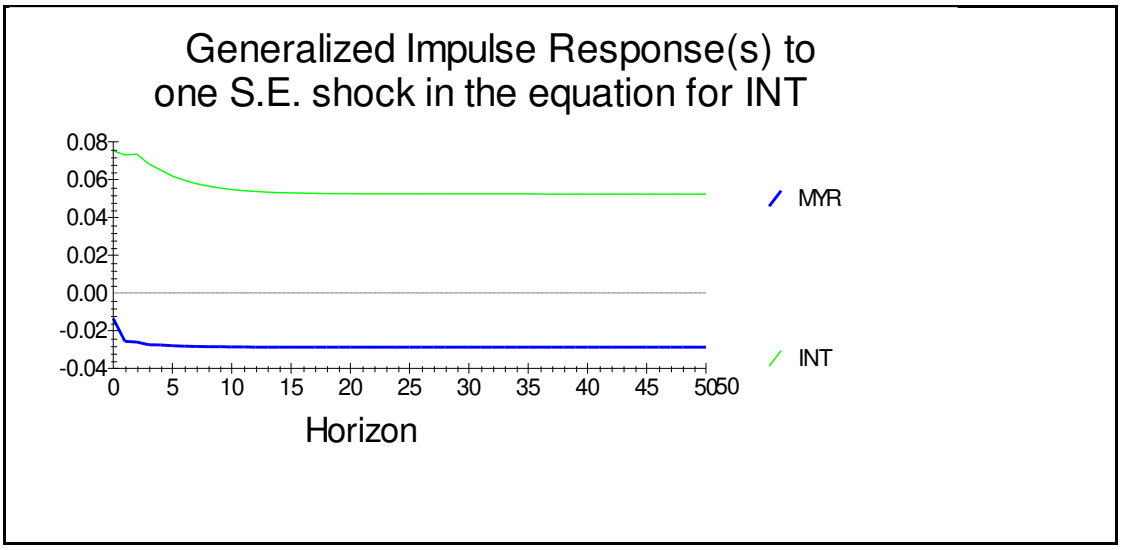
The above results would have the following implications for investors. Among the variables considered, it appears that the Emash is bellwether index. As well as Interest rate specially in the short run.

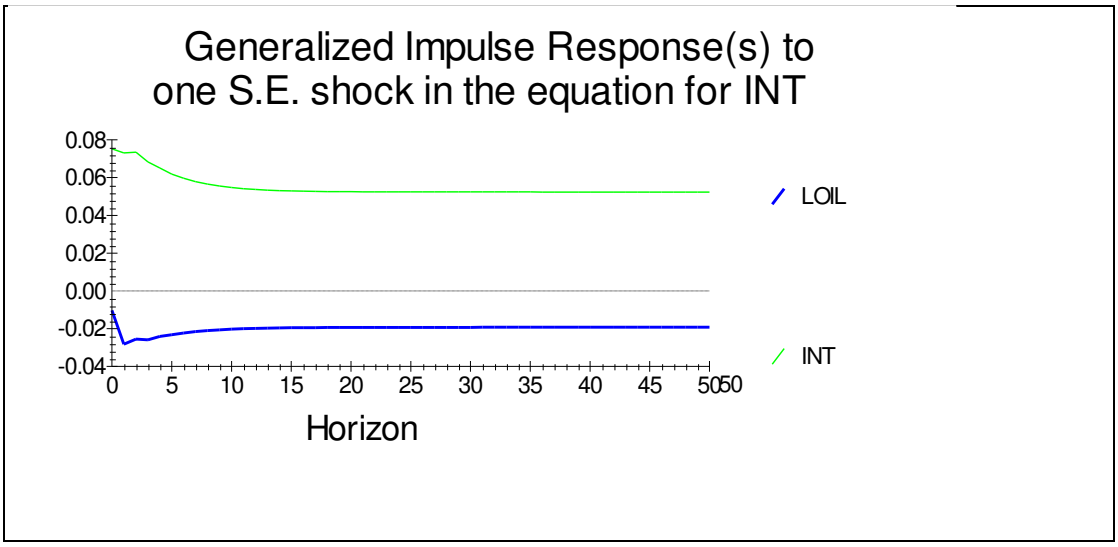
The investors in Islamic stock market should pay more attention to the movement of Islamic stock market, and also should take into consideration the volatility of Interest rate especially in the short run.

3.7 Impulse response functions (IRF)

The impulse response functions essentially produce the same information as the VDCs, except that they can be presented in graphical form. For the sake of completeness, we have included the various graphs of IRFs:

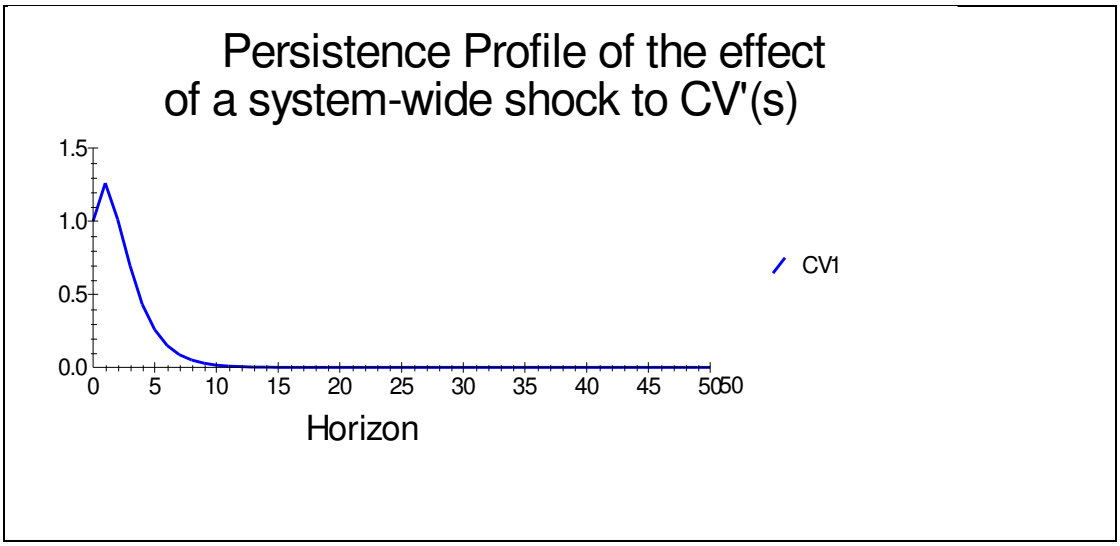






3.8 Persistence Profile

The persistence profile illustrates the situation when the entire co-integrating equation is shocked, and indicates the time it would take for the relationship to get back to equilibrium. Here the effect of a system-wide shock on the long-run relations is the focus instead of variable-specific shocks as in the case of IRFs. The chart below shows the persistence profile for the co-integrating equation of this study.



The chart indicates that it would take approximately 10 a months for the co-integrating relationship to return to equilibrium following a system-wide shock.

4 CONCLUSION

The main objective of this study is to investigate the relationship between Islamic stock market and macroeconomic variables in Malaysia. From the analysis above, it can be concluded that the Islamic stock market shares relationship with the oil and exchange rate since they are exogenous but has a negative relationship with interest rate. These findings show that the long-term equal relationship between the Islamic stock market and macroeconomic variables is in line with the findings from Ibrahim (2003), who utilised the conventional stock market data from the Kuala Lumpur Composite Index (KLCI). Furthermore, the short run term relationship between Islamic stock market and interest rate should be considered since the interest rate has become the stronger leader in the short run. The result suggest that investors in Emash react negatively to the increase in the interest rate which is what would any rational investor would do. This means that investors in general whether Muslims or not look at the same macroeconomic variables in this case the interest rate when deciding to invest or not.

However, the result proves the crucial role of Interest rate on Islamic products, especially in the short run and this result goes against the view that Interest rate does not affect Islamic products. This is not correct, that is what we found in our research. There is a misconception between Muslims that, nominal interest rates are not illegal. Therefore, in case of low interest rates shariah compliant investors may move towards conventional stocks. That is why profit rates have to be raised in order to attract those investors. In case of higher interest rates, shariah compliant investors may move away from conventional stocks because of excessive interest rates. Therefore, Islamic profit rates need not be raised in order to attract the investors. This is a very crucial point for investors in the short-run. With this negative correlation between interest rates and Islamic stock market, it becomes easy to predict Islamic stock markets more accurately in the short-run.

5 LIMITATIONS

The data used in this study is limited to the Islamic stock markets in Malaysia, concentrating more on the post-economic crisis period analysis. Further research may be conducted using a different time period and frequency of data while utilizing more Islamic indices. In addition, future research may look at and compare the market interdependence of Islamic stock markets in different economic conditions such as the pre-economic crisis period, during an economic crisis period or post-economic crisis period.

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